CS 370: Software Design and Development

Syllabus - Fall 2018

Course Information

Instructor Contact

Tyler Holland
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Email (preferred): hollandt@sonoma.edu
Office Hours: TBD

Classroom Information

	Room	Time
Section 03	Stevenson 3030	Tues/Thurs, 5:00 - 6:50pm
Section 04	Stevenson 3028	Tues/Thurs, 7:00 - 8:50pm

Lab sessions will be held during normal class hours in one of the department's computer labs. Students will be notified of upcoming lab sessions in advance in-class and via email.

Course Description

Techniques of software design and development. Software lifecycle, requirements, formal specification, metrics, design, functional and structural testing, rapid prototyping, complexity, version control, and team management. Software metrics, tools for component-based software development. Team-based, agile, and scrum methodologies emphasized.

Prerequisites: Grade of C- or better in CS 215, or consent of instructor.

Course Objectives

This course is intended to provide students with an overview on the contemporary practice of creating software, with particular emphasis placed on practical concerns such as methodology, architecture, usability and tooling. By the end of the course, students should have a high level understanding of:

- Basic source control usage (GitHub)
- Java programming language and XML layout language
- Object Oriented Programming principles
- Android design patterns and architecture
- Translating software requirements to software deliverables
- Methodologies for executing on an end-to-end implementation of consumer software in a collaborative environment
- Contemporary architectures for building consumer applications
- Information architecture and user interface design (conceptual)
- Contemporary tool sets for collaborative software engineering efforts

Learned material will culminate in the implementation of original consumer software for a contemporary platform.

Course Details

Lectures

The course schedule as outlined provides a rough guide to the lecture topics, but may be subject to change should certain materials require additional discussion.
Lecture activities will consist of quizzes based on reading and lecture, practical applications of course content as in-class exercises, and all project work related to team-advisory/project-steering. Additional quizzes may be added to the course schedule as deemed necessary by the instructor.

Homework

Implementation of the team project will be the primary source of out-of-class work for this course. However, there will be some small assignments throughout the first half of the semester that will be aimed at preparing students for eventual implementation of their final project. Late homework will not be accepted for grade without demonstration of extenuating circumstances, but completion may be required to facilitate project implementation regardless.

Exams

There will be two exams during the semester. The exams will focus primarily on content from lectures and quizzes, with the most recent material appearing on each exam. There will be no final exam, as the group project will serve as the primary focus of the class for the second half of the semester.

The Project

There will be only one project for this class. Major details for this project will be provided closer to the scheduled start date, but initial relevant information is as follows:

- Projects will be team based (groups of 3-4)
- Projects must be implemented for a contemporary platform (Web, Mobile…)
- Projects will utilize source control technology
- Projects will adhere to an agile development methodology
- Teams will be graded as a group on project execution and content
- Individual team members will be graded on respective levels of contribution (primarily through progress assessment during lecture attendance involving project steering)
- Projects will be presented to the class (and potentially other software professionals) at the end of the semester in lieu of a final exam.

Grading Criteria

- Quizzes: 15%
- Homework: 15%
- Exams: 30%
- Project (Group): 30%
- Project (Individual): 10%

Grade	Percent

A	93-100%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	63-66%
D-	60-62%
F	< 60%

CS majors must take this course for a letter grade. University guidelines regarding the grade of Incomplete will be strictly adhered to. Incomplete grades will only be given for circumstances beyond a student's control; inability to keep up with the work due to an excessive course load, for example, is insufficient to warrant an Incomplete.

University Policy

There are important University policies that you should be aware of, such as the add/drop policy, cheating and plagiarism policy, grade appeal procedures, accommodations for students with disabilities, and the diversity vision statement. See Important Policies and Procedures for Students at http://www.sonoma.edu/uaffairs/policies/studentinfo.shtml.

Project and Homework Assignment Collaboration Policy

Academic misconduct is taken very seriously in this course. The work you turn in must be the sole work of your group members. You may discuss ideas and approaches

with other students and the instructor, but you should work out all details and write up all solutions with your group.
The following actions will be penalized as academic dishonesty:

- Copying part or all of another student's code
- Copying old or published application code (this does not include the use of third-party libraries)
- Employing other students to contribute to a project solution

Exam Collaboration Policy

Exams must be your own work. Quizzes which have been completed in class may be used as notes for each exam. No electronic devices or group collaboration will be permitted for the exam. On both exams and quizzes, giving or receiving unpermitted aid will be penalized as academic dishonesty.

Penalties for Academic Dishonesty

Academic dishonesty will be severely penalized; at a minimum, you will receive a grade of 0 on the assignment. For more information, see SSU's
Cheating and Plagiarism Policy
and the Dispute Resolution Board website.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc.
How to Add a Class
has step-by-step instructions.
Registration Information
lists important deadlines and penalties for adding and dropping classes.

Disability Access for Students

If you are a student with a disability, and think you may need academic accommodations, please contact Disability Services for Students (DSS), located in Salazar Hall, Room 1049, Voice: (707) 664-2677, TTY/TDD: (707) 664-2958, as early as possible in order to avoid a delay in receiving accommodation services. Use of DSS services, including testing accommodations, requires prior authorization by DSS. See SSU's policy on
Disability Access for Students.

Academic Integrity

Students should be familiar with the University's
Cheating and Plagiarism policy.
Your own commitment to learning, as evidenced by your enrollment at Sonoma State University and the University's policy, require you to be honest in all your academic course work. Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified.

Additional Resources

General IT Help Desk

Contact the IT Help Desk (http://www.sonoma.edu/it/helpdesk/) if you need assistance with Moodle or other information about computing and information technology at SSU. Three ways to contact the IT Help Desk are:

- Call: 707-664-4357
- Email: helpdesk@sonoma.edu
- Visit Location: Schulz 1000

General Student Computing

Review the information posted at Student Computing (http://www.sonoma.edu/it/students). There you will find computer use guidelines and a list of available computer labs.